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L6: Entry 16 of 23

File: USPT

Sep 3, 1991

DOCUMENT-IDENTIFIER: US 5045225 A

TITLE: Self hydrophobing silicone/hydrocarbon antifoam compositions

Brief Summary Text (15):

Kulkarni et al., U.S. Pat. No. 4,514,319 discloses antifoam compositions comprising a hydrocarbon-silicone copolymer in combination with a hydrocarbon carrier oil, an organosilicone surfactant, a hydrophobic filler and optionally a silicone oil. Although the composition is said to work as an efficient antifoam, it appears not to have self-hydrophobing properties in that it appears necessary to use hydrophobic silica particles or to heat the mixture with hydrophilic silica particles.

Detailed Description Text (14):

Hydrophilic surfactants are optional ingredients. U.S. Pat. No. 4,076,648 discloses the addition of hydrophilic surfactants in antifoams to improve the dispersability in water and the spreading over foams. The Hydrophilic surfactants have a hydrophilic-lipophilic balance (HLB) over 5, preferably over 10. Examples are the nonionic surfactants such as sorbitan oleate, ethoxylated nonylphenyl and ethoxylated stearyl alcohol. Another class of the hydrophilic surfactants is comprised of copolymers of silicone and polyalkylene oxide. Examples are Silwet copolymers available from Union Carbide. The proportion of the hydrophilic surfactants in the antifoam composition is up to 20%, preferably from 0.1% to 20%, most preferably 0.5% to 7%. Example 4 below demonstrates that a mixture of 20% of the modified alkylaminosilicones of the present invention in mineral oils without the hydrophilic surfactants spreads over a sodium dodecylsulfate (SDS) solution surface, whereas the hydrocarbonsilicone copolymers of the prior art U.S. Pat. No. 4,514,319 does not. This is a significant improvement.